

### REMARKS

Claims 25-26, 30-31, 37, 41-42 and 44-46 are pending in this application. Claims 25, 37 and 44-46 are independent claims. Reconsideration and allowance of the present application are respectfully requested.

#### **Claim Rejections under 35 U.S.C. §102**

Claims 25, 26, 30, 31, 37, 41, 42 and 44-46 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,148,377 to Carter et al. (hereinafter “Carter”). This rejection is respectfully traversed.

Claim 25, upon which claims 26 and 30-31 depend, recites “an information backup system comprising: a plurality of computer systems, each comprising a disk subsystem and a network interface, wherein each of said computer systems is to be coupled to a network to provide communications among the plurality of computer systems; a functionally coherent and physically distributed cache memory comprising a plurality of memory portions, each within a memory of a computer system among said plurality of computer systems; and a functionally coherent and physically distributed disk storage device comprising a plurality of disk storage portions, each within the disk subsystem of a computer system among said plurality of computer systems, wherein at least one computer system has a bridge driver for communications between its associated network interface and its associated disk subsystem and memory portion, and wherein any portion of said distributed cache is to be accessible to any computer system with a bridge driver connected to the network, independent of the computer system’s location.”

Claim 37, upon which claims 41 and 42 depend, recites “a method for operating an information backup system comprising: organizing into a unified logical disk storage device at least one disk storage portion from a plurality of computer systems of a network, the unified logical disk storage device being accessed by any of said plurality of computer systems; and caching information sent to or obtained from the unified disk storage device using a distributed cache memory comprising a plurality of memory portions, each within a memory of a computer system among said plurality of computer systems; and accessing the unified disk storage device and distributed cache memory via a bridge driver, wherein any portion of said distributed cache

is accessible to a computer system connected to the network independent of the computer system's location."

Claim 44 recites "an information backup system comprising: a plurality of computer systems to be communicatively coupled to a communication network; a distributed cache memory comprising a plurality of memory portions, each memory portion being a portion of a memory of a computer system among said plurality of computer systems, said memory portions being organized to function as a single coherent cache memory; and a distributed disk storage device comprising a plurality of disk storage portions, each disk storage portion being a portion of disk storage of one or more computer systems among said plurality of computer systems, said disk storage portions being organized to function as a single disk storage device, wherein said computer systems are to access said distributed disk storage device as a single logical disk, and wherein any portion of said distributed cache memory is to be accessible to any computer system with a bridge driver connected to the network independent of the computer system's location and is to be operable as a cache memory for said distributed data storage device."

Claim 45 recites "an information backup system comprising: a plurality of computer systems; each computer system among at least a first subset of said computer systems having first means for performing distributed caching, wherein each first means is to provide a portion of memory from its corresponding computer system, wherein all of said first means are to cooperate to provide a unified distributed system cache memory from among said portions of memory, wherein any portion of said distributed system cache memory is to be accessible to any computer system with a bridge driver connected to the network independent of the computer system's location; and each computer system among said first subset further having second means for performing distributed disk storage, wherein each second means is to provide a portion of disk storage of a disk storage device from its corresponding computer system, wherein all of said second means are to cooperate to provide a distributed disk storage device, wherein said computer systems are to access said distributed disk storage device as a single logical disk."

Claim 46 recites "a method for an information backup system comprising a plurality of computer systems, the method comprising: each computer system among said plurality of computer systems providing a portion of its random access memory, collectively referred to as a plurality of memory portions; organizing said memory portions into a unified distributed cache

memory; each computer system among said plurality of computer systems providing a portion or portions of one or more of its disk storage devices, collectively referred to as a plurality of disk storage portions, and organizing said plurality of disk storage portions into a distributed disk storage device; and providing access to said distributed storage device, wherein any of said plurality of computer systems can access said distributed disk storage device as a single logical disk; and caching information sent to or obtained from the distributed disk storage device using the distributed cache memory, wherein any portion of said distributed cache memory is accessible to any computer system with a bridge driver connected to the network independent of the computer system's location."

As noted below, Carter does not teach or suggest each of the elements of the pending claims.

Carter discloses distributed shared memory systems and processes that can connect into each node of a computer network to encapsulate the memory management operations of the connected node and to provide thereby an abstraction of a shared virtual memory that can span across each node of the network and that optionally spans across each memory device connected to the computer network. See at least the Abstract of Carter.

Applicant submits that Carter does not teach or suggest each of the elements of the pending claims. Each of the pending claims, in part, recites "at least one computer system has a bridge driver for communications between its associated network interface and its associated disk subsystem and memory portion, and wherein any portion of said distributed cache is to be accessible to any computer system with a bridge driver connected to the network, independent of the computer system's location." Carter does not teach or suggest these features.

The Office Action indicated that the "bridge driver is broadly interpreted as any device/component that couples Carter's local node's memory and disk portions to the local node's network interface, such device/components include buffers, disk caches, I/O ports and any other devices that perform similar functionalities." See the bottom of page 5 of the Office Action. Notwithstanding the Office Action's interpretation of the bridge driver of the present application, which is discussed below, Carter does not disclose or suggest "any device/component" that couples Carter's local node's memory and disk portions to the local node's network interface. In particular, Carter does not teach or suggest any buffers, disk

caches, I/O ports, and any other devices that perform similar functionalities, “for communications between its associated network interface and its associated disk subsystem and memory portion, and wherein any portion of said distributed cache is to be accessible to any computer system with “said device/component” connected to the network, independent of the computer system’s location.”

As for the Office Action’s interpretation of the bridge driver of the present application, Applicant notes that bridge driver, as recited in the pending claims, cannot be equated with buffers, disk caches and/or I/O ports, as alleged in the Office Action. As recited in the pending claims, the bridge driver is used “for communications between its associated network interface and its associated disk subsystem and memory portion, and wherein any portion of said distributed cache is to be accessible to any computer system with a bridge driver connected to the network, independent of the computer system’s location.” Carter does not teach or suggest such a bridge driver. Therefore, Applicants respectfully request that this rejection of claims 25, 26, 30, 31, 37, 41, 42 and 44-46 under 35 U.S.C. §102 be withdrawn.

#### **Disclaimer**

Applicants may not have presented all possible arguments or have refuted the characterizations of either the claims or the prior art as found in the Office Action. However, the lack of such arguments or refutations is not intended to act as a waiver of such arguments or as concurrence with such characterizations.

**CONCLUSION**

In view of the above, consideration and allowance are respectfully solicited.

In the event the Examiner believes an interview might serve in any way to advance the prosecution of this application, the undersigned is available at the telephone number noted below.

The Office is authorized to charge any necessary fees to Deposit Account No. 22-0185.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 27592-00362-US11 from which the undersigned is authorized to draw.

Dated: October 2, 2008

Respectfully submitted,

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